



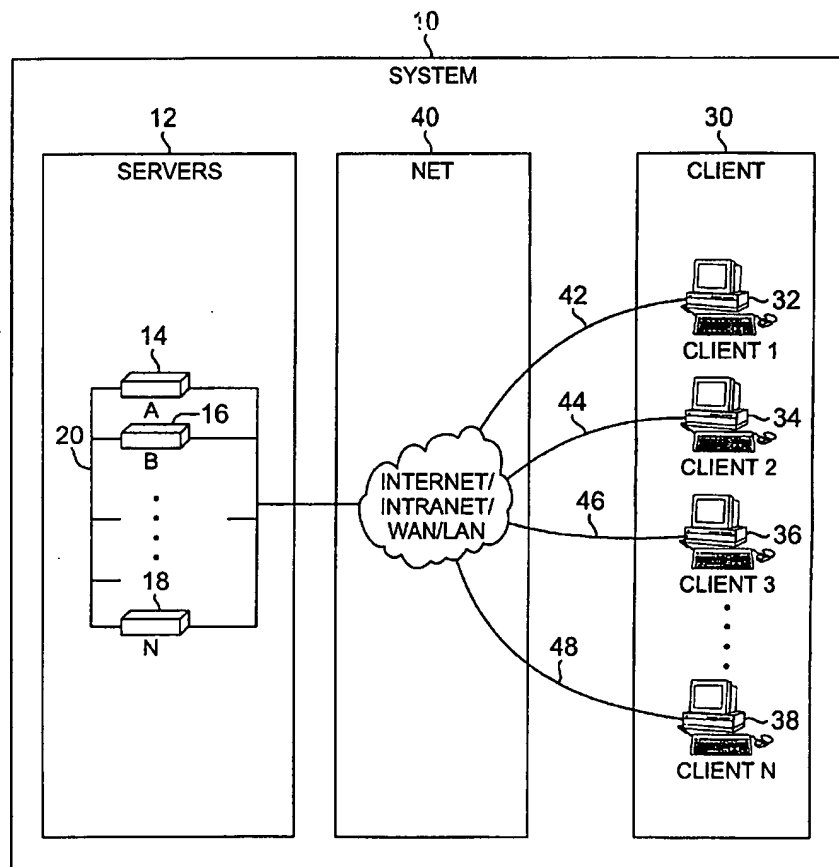
US 20030008712A1

(19) **United States**(12) **Patent Application Publication** (10) **Pub. No.: US 2003/0008712 A1**
Poulin (43) **Pub. Date: Jan. 9, 2003**(54) **SYSTEM AND METHOD FOR
DISTRIBUTING A MULTI-CLIENT
GAME/APPLICATION OVER A
COMMUNICATIONS NETWORK****Publication Classification**(51) **Int. Cl.⁷** **A63F 13/00**
(52) **U.S. Cl.** **463/42**(75) **Inventor: Martin Poulin, Bedford, TX (US)**

Correspondence Address:
**DAVIS MUNCK
A PROFESSIONAL CORPORATION
900 THREE GALLERIA TOWER
13155 NOEL ROAD
DALLAS, TX 75240 (US)**

(73) **Assignee: PLAYNET, INC., Bedford, TX**(21) **Appl. No.: 10/162,438**(22) **Filed: Jun. 4, 2002****Related U.S. Application Data**(60) **Provisional application No. 60/295,874, filed on Jun. 4, 2001.**(57) **ABSTRACT**

An apparatus and method for distributing a multi-client system (10) over a communications network (40) for use in games and other applications. The system (10) includes a plurality of servers (14, 16, 18) each associated with one or more clients (32, 34, 36, 38). A set of data (102, 112, 122) is maintained on each server for each client/object, and an interaction data set for each non-associated client/object (clients/objects on another server) (104, 106, 114, 116, 124, 126) is transmitted to other servers to provide inter-server mirroring or duplication of data. The interaction data set is a subset of the set of data for each client/object. Volumes, each defined by a set of coordinates, managed by each server (204) are dynamically allocated to manage server load based upon the number of clients/users associated with the volumes.



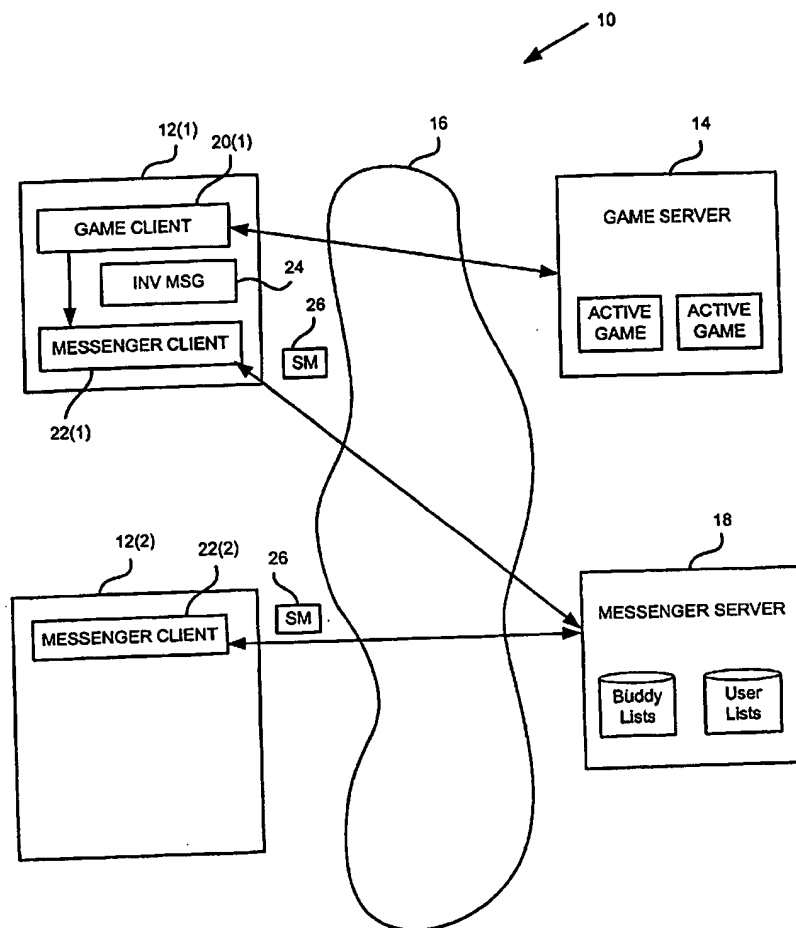


US 20020086732A1

(19) **United States**(12) **Patent Application Publication** (10) **Pub. No.: US 2002/0086732 A1****Kirmse et al.**(43) **Pub. Date:****Jul. 4, 2002**(54) **GAME SERVER FOR USE IN CONNECTION WITH A MESSENGER SERVER****Publication Classification**(51) **Int. Cl.⁷** **A63F 13/00**(52) **U.S. Cl.** **463/42**(75) **Inventors:** Chris Kirmse, Sunnyvale, CA (US);
Brian Gottlieb, Palo Alto, CA (US)**Correspondence Address:****TOWNSEND AND TOWNSEND AND CREW,
LLP****TWO EMBARCADERO CENTER****EIGHTH FLOOR****SAN FRANCISCO, CA 94111-3834 (US)**(73) **Assignee:** Yahoo! Inc., Santa Clara, CA (US)(21) **Appl. No.:** 09/898,746(22) **Filed:** Jul. 2, 2001**Related U.S. Application Data**(63) **Non-provisional of provisional application No.**
60/215,710, filed on Jul. 3, 2000.(57) **ABSTRACT**

A game and messenger client-server system is provided including a plurality of game clients, a game server, a plurality of messenger clients, and a messenger server. The game server includes logic to operate a multiplayer game using inputs from and outputs to an active game set of game clients, wherein game clients other than those in the active game set can join an active game by supplying the game server with a reference to the active game.

Additionally, logic is included for coupling a game client to a messenger client to allow the game client to send the messenger client data used to initiate joining a game, whereby a message sent by the messenger client includes the data used to initiate joining a game. Also, logic is included for initiating a join of a game at an invitee client, using data received in a message to the invitee.





US006659874B2

(12) **United States Patent**
Idaka

(10) **Patent No.:** **US 6,659,874 B2**

(45) **Date of Patent:** **Dec. 9, 2003**

(54) **METHOD OF PERFORMING GAME, GAME SERVER AND CLIENT APPARATUS CONSTITUTING GAME SYSTEM FOR EXECUTING THE METHOD, AND RECORDING MEDIUM PROVIDED WITH PROGRAM FOR OPERATING THE GAME SERVER**

(75) **Inventor:** Mitsuhiro Idaka, Tokyo (JP)

(73) **Assignee:** Konami Corporation, Tokyo (JP)

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 94 days.

(21) **Appl. No.:** 09/961,267

(22) **Filed:** Sep. 25, 2001

(65) **Prior Publication Data**

US 2002/0052241 A1 May 2, 2002

(30) **Foreign Application Priority Data**

Sep. 25, 2000 (JP) P. 2000-289993

(51) **Int. Cl.⁷** A63F 13/00; A63F 9/24;
G06F 17/00; G06F 19/00

(52) **U.S. Cl.** 463/42; 463/16; 463/17;
463/25; 463/26

(58) **Field of Search** 463/42, 16-20,
463/25-27, 13, 30, 31, 34; 273/138-139,
292, 293, 143 R, 121 B, 274, 148 R, 309

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,975,528 A * 11/1999 Halaby 273/148 R
6,264,560 B1 * 7/2001 Goldberg et al. 463/42

* cited by examiner

Primary Examiner—Teresa Walberg

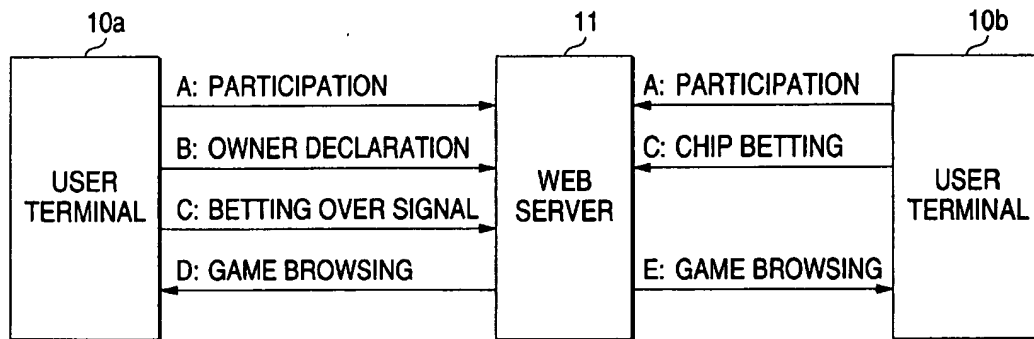
Assistant Examiner—Robert Mendoza

(74) *Attorney, Agent, or Firm*—Sughrue Mion, PLLC

(57) **ABSTRACT**

When a user desires to participate a roulette game performed in a site operated by a web server, the user participates himself in the game by use of a user terminal. Of the users, a user who has declared to be an owner can participate and play the roulette game as the owner. In contrast, a user who has participated the game as a player predict a number determined by a roulette wheel and bet chips. If no winning chips have hit, the chips betted in a layout table are paid to the owner. In contrast, if winning chips have hit, the amount of payout is computed, and the chips are paid to the player. If the amount of chips paid to the player is greater than the amount of chips betted in the layout table, chips are paid to the players from the chips possessed by the owner.

27 Claims, 8 Drawing Sheets





US006203433B1

(12) **United States Patent**
Kume

(10) Patent No.: **US 6,203,433 B1**
(45) Date of Patent: **Mar. 20, 2001**

(54) **NETWORK GAME SYSTEM, A NETWORK GAME SERVER, A NETWORK GAME CLIENT, A PLAYER SELECTION PROGRAM, A MEDIUM STORING A PLAYER SELECTION PROGRAM, AND A MEDIUM STORING A PLAYER INFORMATION COLLECTION PROGRAM**

5,862,339 * 1/1999 Bonnaure et al. 395/200.57
5,899,810 * 5/1999 Smith 463/42
5,964,660 * 10/1999 James et al. 463/1
5,971,271 * 10/1999 Wynn et al. 235/380
6,012,984 * 1/2000 Roseman 463/42
6,023,722 * 2/2000 Colyer 709/201

FOREIGN PATENT DOCUMENTS

7-95321 4/1995 (JP).
B2-7-63546 7/1995 (JP).

* cited by examiner

(75) Inventor: **Hiroshi Kume, Nakai-machi (JP)**

(73) Assignee: **Fuji Xerox Co., Ltd., Tokyo (JP)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/134,355**

(22) Filed: **Aug. 14, 1998**

(30) Foreign Application Priority Data

Aug. 20, 1997 (JP) 9-223652

(51) Int. Cl.⁷ **F16D 7/02**

(52) U.S. Cl. **463/42; 463/41; 395/200.57**

(58) Field of Search **463/42, 41, 40, 463/43, 17, 18, 19; 364/410.1; 395/200.57, 200.58**

(56) References Cited

U.S. PATENT DOCUMENTS

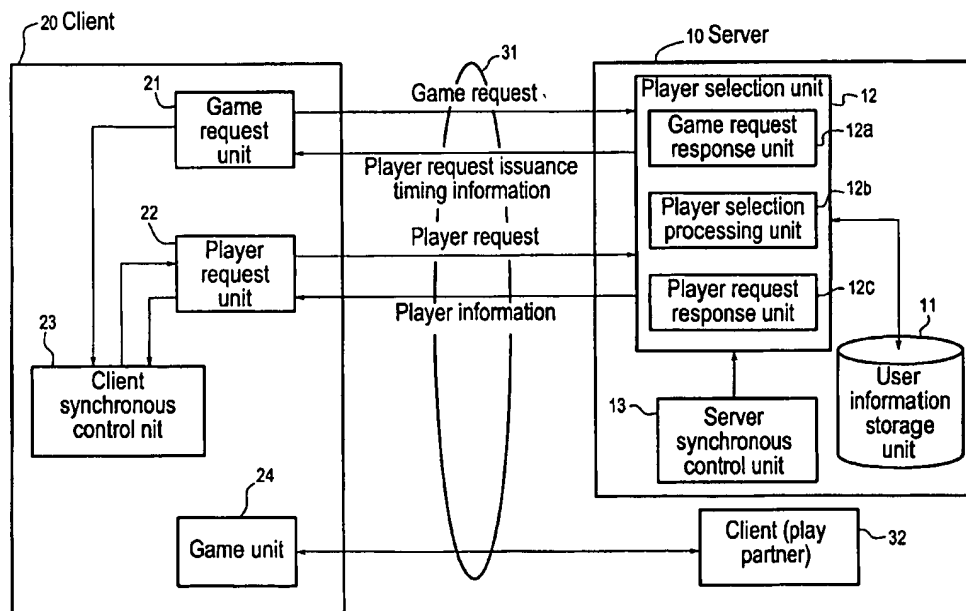
5,558,339 * 9/1996 Perlman 463/42
5,761,507 * 6/1998 Govett 395/684
5,790,789 * 8/1998 Suarez 395/200
5,793,964 * 8/1998 rogers et al. 395/200.32
5,862,220 * 1/1999 Perlman 380/21

Primary Examiner—Lee Young
Assistant Examiner—Minh Trinh
(74) *Attorney, Agent, or Firm*—Oliff & Berridge, PLC

(57) ABSTRACT

An object of the present invention is to relieve users of efforts to select play partners by themselves. Upon receipt of a game request, a game request response unit returns player request issuance timing information specifying time to issue a player request. A player selection processing unit determines combinations of games at a predetermined timing. Upon receipt of a player request, a player request response unit extracts information about opposing players of a user issuing the player request from a user information storage unit and returns it to a client as a response to the player request. A game request unit of the client outputs a game request to a server and receives player request issuance timing information from the server. When the time specified in the player request issuance timing information is reached, a player request unit outputs a player request to the server and receives information about play partners from the server.

15 Claims, 35 Drawing Sheets





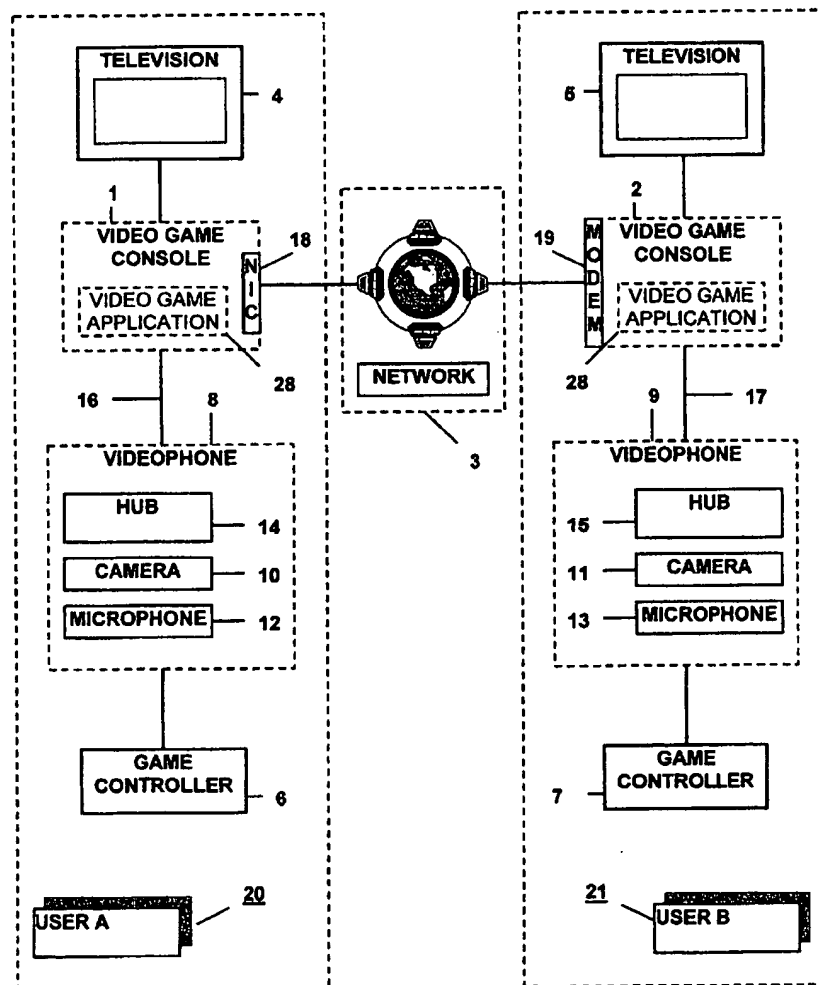
US 20030232648A1

(19) **United States**(12) **Patent Application Publication** (10) Pub. No.: **US 2003/0232648 A1**
Prindle (43) Pub. Date: **Dec. 18, 2003**(54) **VIDEOPHONE AND VIDEOCONFERENCING APPARATUS AND METHOD FOR A VIDEO GAME CONSOLE**(76) Inventor: **Joseph Charles Prindle, Santa Monica, CA (US)**Correspondence Address:
Joseph Charles Prindle
Suite 211
1122 18th Street
Santa Monica, CA 90403 (US)(21) Appl. No.: **10/171,227**(22) Filed: **Jun. 14, 2002****Publication Classification**(51) Int. Cl.⁷ **G06F 19/00**(52) U.S. Cl. **463/40**

(57)

ABSTRACT

A videophone and videoconferencing system for multiple video game consoles residing on a network. Each client video game console has a camera and microphone attached, client software executing on the game console, that can be controlled by the video game controller through a Graphical User Interface (GUI), which is displayed from the client video game console on a standard television set. Each console comprises a networked interface card (NIC) or modem, a network connection, and software executing on the client video game console that can establish peer-to-peer or client-to-server network connections. Each console supports the H.323 standard for conferencing, and can send and receive, and encode and decode video and audio signals, and display that and other data on screen. This system and apparatus allows a game console to become a simple and cost-effective method for videophone and videoconferencing between client video game consoles and other client computers, and in one implementation, can be used as a peer-to-peer videophone for a networked game console.





US 20030212996A1

(19) **United States**(12) **Patent Application Publication**
Wolzien(10) **Pub. No.: US 2003/0212996 A1**(43) **Pub. Date: Nov. 13, 2003**(54) **SYSTEM FOR INTERCONNECTION OF
AUDIO PROGRAM DATA TRANSMITTED
BY RADIO TO REMOTE VEHICLE OR
INDIVIDUAL WITH GPS LOCATION**

(60) Provisional application No. 60/197,314, filed on Apr. 14, 2000.

Publication Classification(51) **Int. Cl.⁷ H04N 5/445; G06F 3/00**(52) **U.S. Cl. 725/60**(76) **Inventor: Thomas R. Wolzien, Grandview, NY
(US)**

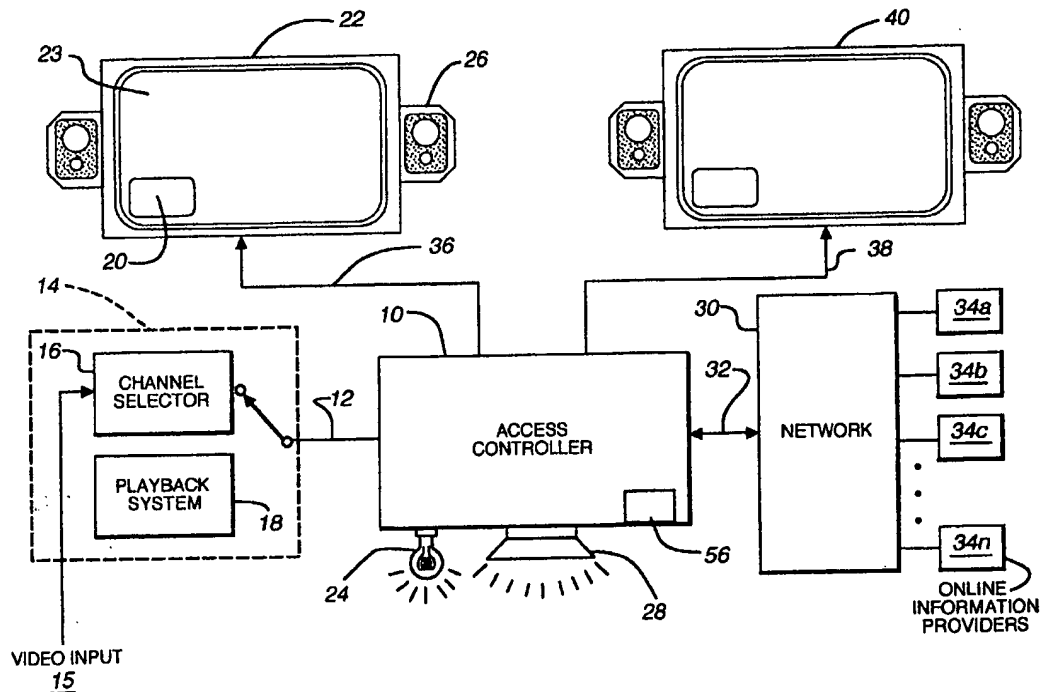
Correspondence Address:

**DORSEY & WHITNEY, LLP
INTELLECTUAL PROPERTY DEPARTMENT
370 SEVENTEENTH STREET
SUITE 4700
DENVER, CO 80202-5647 (US)****ABSTRACT**

A system and method for expediting the provisioning of goods/services to a user by providing directions from a current location for the user to a destination associated with an address embedded within or transmitted in conjunction with a programming signal. The system also utilizes user identifiers, payment information, user preferences and delivery instructions to expeditiously provide the goods/services to the user upon the user's arrival at the destination. The address provides an indication to an online information provider and/or a database within which a listing of goods/services provided by the provider and a listing of locations providing the goods/services. By comparing the various locations of the destination against the current location of the user, preferably determined using Global Positioning System data, the present invention determines which location of the destination is closest and provides directions thereto. Additionally, the present invention may be configured to utilize a Mobile Transaction Enabling System (MOTES) for automatically communicating payment and other information for a user to a provider.

(21) **Appl. No.: 09/834,375**(22) **Filed: Apr. 13, 2001****Related U.S. Application Data**

(63) Continuation-in-part of application No. 09/573,620, filed on May 17, 2000, which is a continuation of application No. 09/054,740, filed on Apr. 3, 1998, now Pat. No. 6,233,736, which is a continuation of application No. 08/597,432, filed on Feb. 8, 1996, now Pat. No. 5,761,606.





US 20030167300A1

(19) **United States**(12) **Patent Application Publication**

Ullman et al.

(10) Pub. No.: **US 2003/0167300 A1**(43) Pub. Date: **Sep. 4, 2003**

(54) **ENHANCED VIDEO PROGRAMMING
SYSTEM AND METHOD FOR
INCORPORATING AND DISPLAYING
RETRIEVED INTEGRATED INTERNET
INFORMATION SEGMENTS**

now Pat. No. 5,778,181, which is a continuation-in-part of application No. 08/613,144, filed on Mar. 8, 1996, now abandoned.

Publication Classification

(75) Inventors: **Craig Ullman, Brooklyn, NY (US);
Jack D. Hildary, New York, NY (US);
Nova T. Spivack, New York, NY (US)**

(51) Int. Cl.⁷ **G06F 15/16**
(52) U.S. Cl. **709/203; 709/245**

Correspondence Address:

**DORSEY & WHITNEY, LLP
INTELLECTUAL PROPERTY DEPARTMENT
370 SEVENTEENTH STREET
SUITE 4700
DENVER, CO 80202-5647 (US)**

(73) Assignee: **ACTV, Inc., New York, NY**

(21) Appl. No.: **10/294,092**

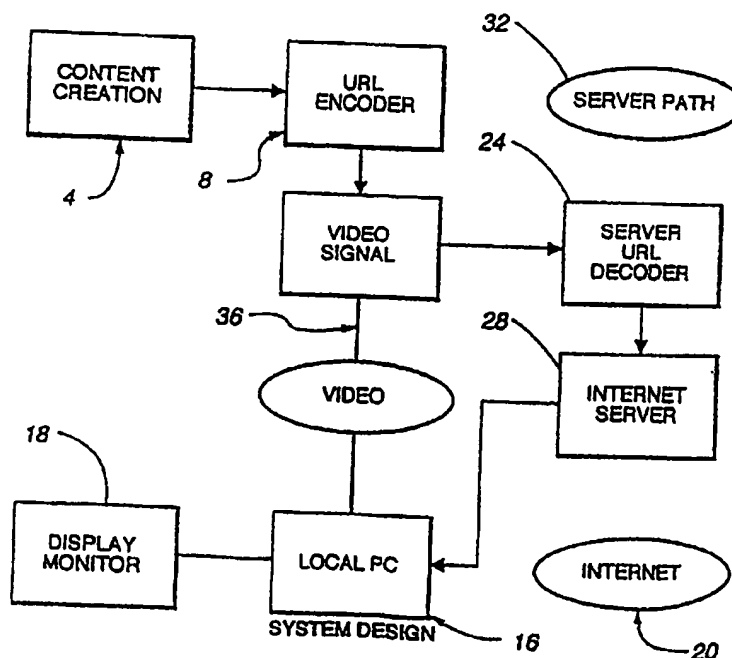
(22) Filed: **Nov. 13, 2002**

Related U.S. Application Data

(63) Continuation of application No. 09/998,588, filed on Nov. 16, 2001, now abandoned, which is a continuation of application No. 09/633,359, filed on Aug. 4, 2000, now abandoned, which is a continuation of application No. 09/472,385, filed on Dec. 23, 1999, now abandoned, which is a continuation of application No. 09/109,945, filed on Jul. 6, 1998, now Pat. No. 6,018,768, which is a continuation-in-part of application No. 08/615,143, filed on Mar. 14, 1996,

(57) **ABSTRACT**

A system for integrating video programming with the vast information resources of the Internet. A computer-based system receives a video program with embedded uniform resource locators (URLs). The URLs, the effective addresses of locations or Web sites on the Internet, are interpreted by the system and direct the system to the Web site locations to retrieve related Web pages. Upon receipt of the Web pages by the system, the Web pages are synchronized to the video content for display. The video program signal can be displayed on a video window on a conventional personal computer screen. The actual retrieved Web pages are time stamped to also be displayed, on another portion of the display screen, when predetermined related video content is displayed in the video window. As an alternative, the computer-based system receives the URLs directly through an Internet connection, at times specified by TV broadcasters in advance. The system interprets the URLs and retrieves the appropriate Web pages. The Web pages are synchronized to the video content for display in conjunction with a television program being broadcast to the user at that time. This alternative system allows the URLs to be entered for live transmission to the user.



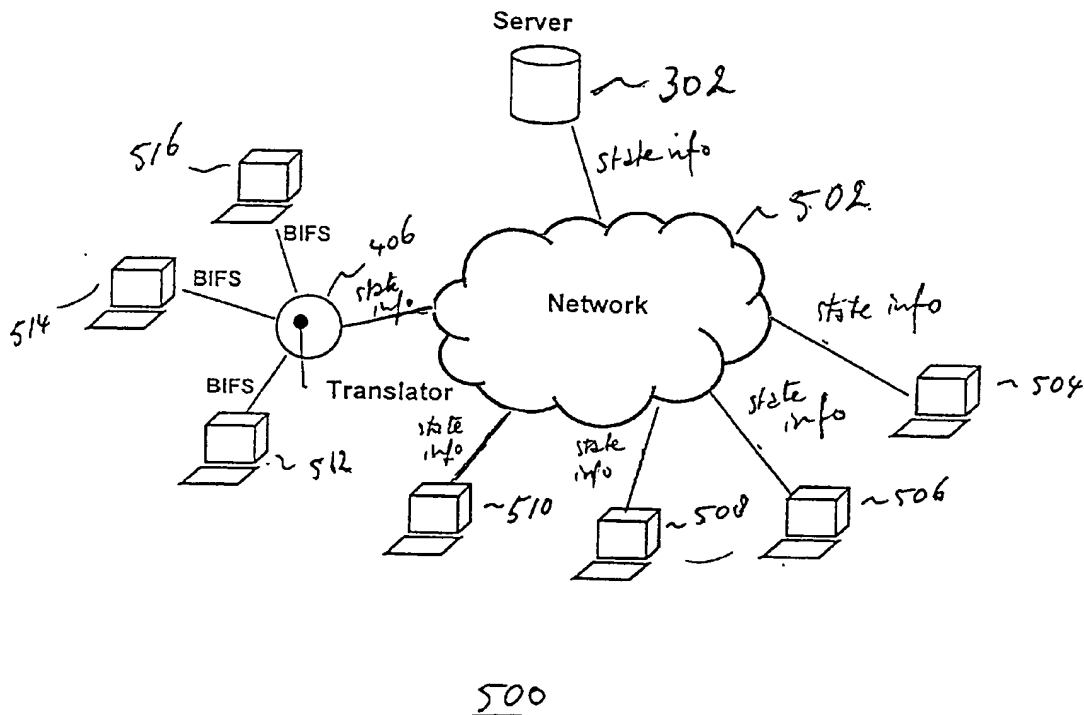


US 20030037156A1

(19) **United States**(12) **Patent Application Publication** (10) Pub. No.: **US 2003/0037156 A1**
MALLART (43) Pub. Date: **Feb. 20, 2003**(54) **REAL TIME VIDEO GAME USES
EMULATION OF STREAMING OVER THE
INTERNET IN A BROADCAST EVENT****Related U.S. Application Data**(63) Continuation-in-part of application No. 09/138,782,
filed on Aug. 24, 1998.(76) Inventor: **RAOUL MALLART, MOUNTAIN
VIEW, CA (US)****Publication Classification**(51) Int. Cl.⁷ **G06F 15/16**
(52) U.S. Cl. **709/231; 345/473**Correspondence Address:
**CORPORATE PATENT COUNSEL
U.S. PHILIPS CORPORATION
580 WHITE PLAINS ROAD
TARRYTOWN, NY 10591**(57) **ABSTRACT**

In a broadcast application on a client-server network the streaming is emulated of animation data over the Internet to a large number of clients. The animation is considered a sequence of states. State information is sent to the clients instead of the graphics data itself. The clients generate the animation data itself under control of the state information. The server and clients communicate using a shared object protocol. Thus, streaming is accomplished as well as a broadcast without running into severe network bandwidth problems. This approach is used to map a real life event, e.g., a motor race, onto a virtual environment in order to let the user participate in a virtual race against the real life professionals, the dynamics of the virtual environment being determined by the state changes sent to the user.

(*) Notice: This is a publication of a continued prosecution application (CPA) filed under 37 CFR 1.53(d).

(21) Appl. No.: **09/149,950**(22) Filed: **Sep. 9, 1998**



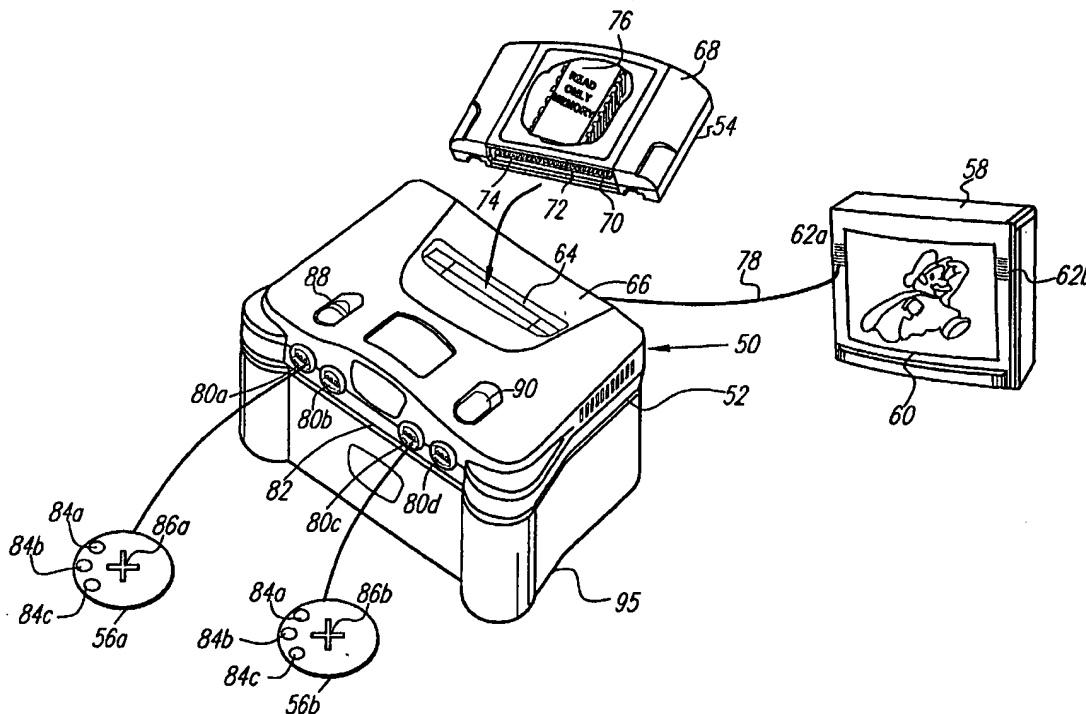
US 20030032486A1

(19) **United States**(12) **Patent Application Publication** (10) Pub. No.: **US 2003/0032486 A1**
Elliott (43) Pub. Date: **Feb. 13, 2003**(54) **SECURITY SYSTEM FOR VIDEO GAME SYSTEM WITH HARD DISK DRIVE AND INTERNET ACCESS CAPABILITY**(75) Inventor: **Scott Elliott, Redmond, WA (US)**Correspondence Address:
NIXON & VANDERHYE P.C.
1100 North Glebe Road, 8th Floor
Arlington, VA 22201 (US)(73) Assignee: **Nintendo of America Inc.**(21) Appl. No.: **10/144,748**(22) Filed: **May 15, 2002****Related U.S. Application Data**

(63) Continuation of application No. 09/384,189, filed on Aug. 27, 1999, now Pat. No. 6,468,160, which is a continuation-in-part of application No. 09/288,293, filed on Apr. 8, 1999.

Publication Classification(51) Int. Cl.⁷ **A63F 13/00**(52) U.S. Cl. **463/43**(57) **ABSTRACT**

An existing video game system is modified to include additional communication and storage capability via a modem and hard disk drive. In accordance with one embodiment of the present invention, the primary system security features are incorporated into a video game system expansion device having a hard disk drive. The security system does not rely on the relatively insecure video game system. The present exemplary embodiment focuses security control in a disk drive/mass media controlling engine which is physically disposed within the expansion device housing as close as possible to the hard disk drive and the downloaded video games and other data it is designed to protect. Security features are incorporated into, for example, a disk drive controlling processing engine to provide security features which extend far beyond simplistic password systems which have heretofore been utilized in conjunction with disk drive controllers. In accordance with an exemplary embodiment of the present invention, the disk controller also incorporates an encrypting engine which encrypts in accordance with a highly secure encrypting algorithm. A further level of security is provided in the illustrative embodiments by partitioning the hard drive into various partitions whose security/accessibility is tightly controlled. Each application program, e.g., a video game, has a predetermined number of private partitions, including a read only encrypted partition.





US 20030032474A1

(19) **United States**(12) **Patent Application Publication** (10) Pub. No.: **US 2003/0032474 A1**
(43) Pub. Date: **Feb. 13, 2003**
Kaminkow(54) **FLEXIBLE LOYALTY POINTS PROGRAMS**

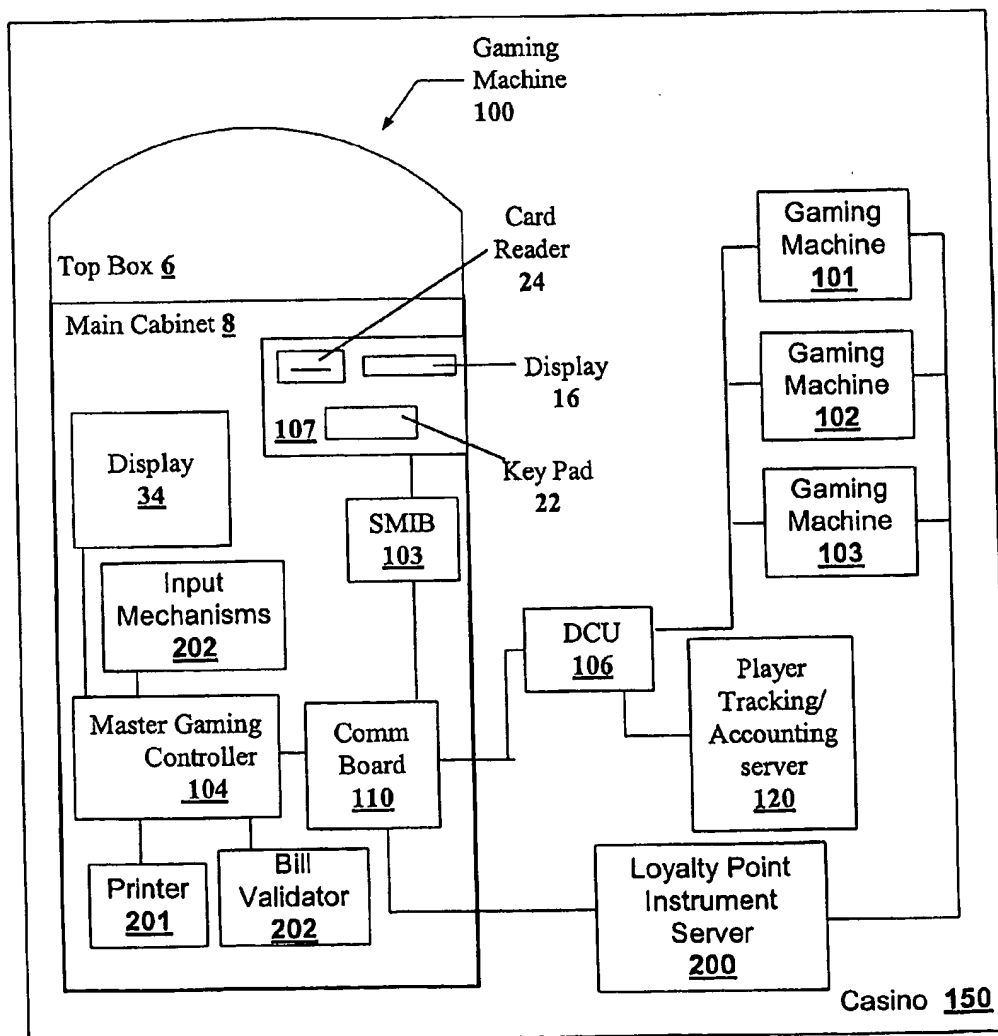
(57)

ABSTRACT(75) Inventor: **Joseph E. Kaminkow, Reno, NV (US)**

Correspondence Address:

BEYER WEAVER & THOMAS LLP
P.O. BOX 778
BERKELEY, CA 94704-0778 (US)(73) Assignee: **International Game Technology**(21) Appl. No.: **09/927,742**(22) Filed: **Aug. 10, 2001****Publication Classification**(51) Int. Cl.⁷ **G06F 19/00**(52) U.S. Cl. **463/25**

A disclosed a loyalty program transaction network provides a plurality of loyalty program instrument generation sites that award loyalty points. The loyalty points may be stored on loyalty point instruments such as printed tickets, magnetic-striped cards, room keys, portable wireless devices and smart cards. The loyalty program instruments may be issued to a patron of a gaming establishment without receiving identification information from the patron. At a loyalty program validation site, the loyalty program instruments may be used to redeem loyalty points for goods and services or the loyalty program instruments may be used to add loyalty points to an existing loyalty program account. Loyalty points may be earned by the patron during a number of activities such as playing a gaming machine, playing a game of chance, a food purchase, an entertainment purchase, a transportation purchase, a lodging purchase, a merchandise purchase and a service purchase.





US006712702B2

(12) **United States Patent**
Goldberg et al.

(10) **Patent No.:** **US 6,712,702 B2**
(45) **Date of Patent:** **Mar. 30, 2004**

(54) **METHOD AND SYSTEM FOR PLAYING GAMES ON A NETWORK**

(76) Inventors: **Sheldon F. Goldberg**, 3360 E. Serene, Henderson, NV (US) 89014; **John Van Antwerp**, 110 E. Perry St., Pittsfield, IL (US) 62363

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 151 days.

(21) Appl. No.: **09/811,173**

(22) Filed: **Mar. 16, 2001**

(65) **Prior Publication Data**

US 2003/0060247 A1 Mar. 27, 2003

Related U.S. Application Data

(63) Continuation of application No. 09/140,979, filed on Aug. 27, 1998, now Pat. No. 6,264,560, and a continuation-in-part of application No. 09/105,401, filed on Jun. 26, 1998, now Pat. No. 6,183,366, which is a continuation of application No. 08/759,895, filed on Dec. 3, 1996, now Pat. No. 5,823,879.

(60) Provisional application No. 60/058,006, filed on Aug. 28, 1997, provisional application No. 60/010,361, filed on Jan. 19, 1996, and provisional application No. 60/010,703, filed on Jan. 26, 1996.

(51) Int. Cl.⁷ **A63F 9/24**

(52) U.S. Cl. **463/42**

(58) Field of Search 463/26, 27, 11, 463/12, 13, 14, 15, 7, 30, 31, 35; 273/236, 237

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,796,433 A	3/1974	Fralcy et al.	
3,848,193 A	11/1974	Martin et al.	325/53
3,987,398 A	10/1976	Fung	325/309
4,166,413 A	9/1979	Meszaros	358/146
4,170,782 A	10/1979	Miller	368/84
4,224,644 A	9/1980	Lewis et al.	360/72.2

(List continued on next page.)

FOREIGN PATENT DOCUMENTS

DE	733983	4/1943	21/72
DE	29 18 846	11/1980	H04N/5/64
DE	33 25 810 C2	10/1985	H04N/6/64
DE	36 21 263 A1	7/1988	G11B/21/0808
EP	660179	11/1980	
EP	0113022 A2	11/1983	H04M/11/08
EP	279297	8/1988	
EP	290207	11/1988	
EP	307925	3/1989	
EP	370146	5/1990	

(List continued on next page.)

OTHER PUBLICATIONS

U.S. patent application Ser. No. 09/502,285, Goldberg et al., filed Feb. 11, 2000.

(List continued on next page.)

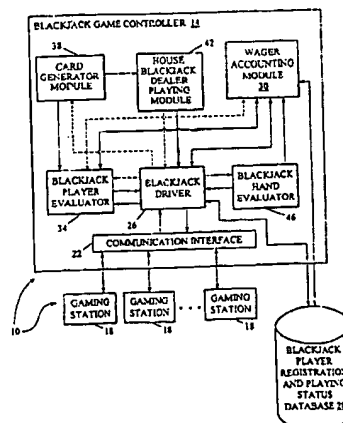
Primary Examiner—Kim Nguyen

(74) *Attorney, Agent, or Firm*—Grossman & Flight, LLC

(57) **ABSTRACT**

The present invention is a game playing method and apparatus for automating games such as blackjack, poker, craps, roulette, baccarat and pai gow, wherein players may play continuously and asynchronously, and information related to advertised items can be exchanged between players and advertisers. In one embodiment, each instance of a game is likely unique from all other current game instances. The games do not require a manual dealer and in one embodiment, played in a gaming establishment using low cost gaming stations. The present invention may also, be used to play such games on the Internet or an interactive cable television network wherein a game controller communicates with players at network nodes in their homes and at their leisure since there is no game tempo requirement. During a game, advertising is selectively provided by comparing player personal information with a desired demographic profile. Player responses to advertising are used for evaluating advertising effectiveness. The invention is useful for test marketing of products, advertisements, and reduces advertising costs.

54 Claims, 14 Drawing Sheets





US006557041B2

(12) **United States Patent**
Mallart

(10) **Patent No.:** **US 6,557,041 B2**
(45) **Date of Patent:** ***Apr. 29, 2003**

(54) **REAL TIME VIDEO GAME USES
EMULATION OF STREAMING OVER THE
INTERNET IN A BROADCAST EVENT**

(75) **Inventor:** **Raoul Mallart, Mountain View, CA
(US)**

(73) **Assignee:** **Koninklijke Philips Electronics N.V.,
Eindhoven (NL)**

(*) **Notice:** This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) **Appl. No.:** **09/149,950**

(22) **Filed:** **Sep. 9, 1998**

(65) **Prior Publication Data**

US 2003/0037156 A1 Feb. 20, 2003

Related U.S. Application Data

(63) Continuation-in-part of application No. 09/138,782, filed on Aug. 24, 1998.

(51) **Int. Cl.⁷** **G06F 15/16**

(52) **U.S. Cl.** **709/231; 709/205; 345/473**

(58) **Field of Search** **709/204, 205,
709/237, 231, 210; 345/473**

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,659,691 A 8/1997 Durward et al. 395/329
5,754,190 A * 5/1998 Dutton et al. 345/473
5,953,506 A * 9/1999 Kalra et al. 709/231
5,956,028 A * 9/1999 Matsui et al. 345/329
5,999,944 A * 12/1999 Lipkin 345/502

6,006,254 A * 12/1999 Waters et al. 709/205
6,055,563 A * 4/2000 Endo et al. 709/203
6,185,602 B1 * 2/2001 Bayrakeri 709/204
6,204,862 B1 * 3/2001 Barstow et al. 345/473
6,208,357 B1 * 3/2001 Koga et al. 345/473
6,215,498 B1 * 4/2001 Filo et al. 345/419
6,219,045 B1 * 4/2001 Leahy et al. 345/331
6,285,379 B1 * 11/2001 Gallery 345/473
6,331,851 B1 * 12/2001 Suzuki et al. 345/419
6,351,267 B1 * 2/2002 Gever et al. 345/473

OTHER PUBLICATIONS

Katkere A Et Al: "VRML-Based WWW Interface To MPI Video" Dec. 14-15, 1995, p. 25-31 XP000791035 the whole document.

Barrus J.W; Waters R.C ; Anderson D.B. : "locales: supporting large multiuser virtual environments" vol. 16, No. 6 Nov. 1996 pp. 50-57 and 51-53 XP002125829.

<http://www.virtualive.com> of Orad Hi-Tec Systems, Ltd.;

(List continued on next page.)

Primary Examiner—Zarni Maung

Assistant Examiner—Abdullahi E. Salad

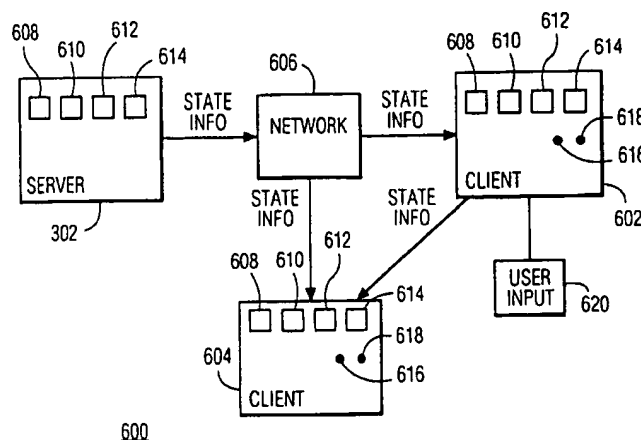
(74) *Attorney, Agent, or Firm*—Gwenaelle Kasriel

(57)

ABSTRACT

In a broadcast application on a client-server network the streaming is emulated of animation data over the Internet to a large number of clients. The animation is considered a sequence of states. State information is sent to the clients instead of the graphics data itself. The clients generate the animation data itself under control of the state information. The server and clients communicate using a shared object protocol. Thus, streaming is accomplished as well as a broadcast without running into severe network bandwidth problems. This approach is used to map a real life event, e.g., a motor race, onto a virtual environment in order to let the user participate in a virtual race against the real life professionals, the dynamics of the virtual environment being determined by the state changes sent to the user.

9 Claims, 6 Drawing Sheets





US006042477A

United States Patent [19][11] **Patent Number:** **6,042,477****Addink**[45] **Date of Patent:** **Mar. 28, 2000**

[54] **METHOD OF AND SYSTEM FOR
MINIMIZING THE EFFECTS OF TIME
LATENCY IN MULTIPLAYER ELECTRONIC
GAMES PLAYED ON INTERCONNECTED
COMPUTERS**

5,618,045 4/1997 Kagan et al. 463/40
5,685,775 11/1997 Bakoglu et al. 463/41
5,751,721 5/1998 Bloks 395/200.78
5,775,996 7/1998 Othmer et al. 463/40
5,805,871 9/1998 Baxter 395/200.78

[76] **Inventor:** Dale H. Addink, 1701 W. Northwest
Hwy. Suite 220, Grapevine, Tex. 76051

Primary Examiner—Valencia Martin-Wallace

Assistant Examiner—John Paradiso

Attorney, Agent, or Firm—Myers, Bigel, Sibley & Sajovec,
P.A.

[21] **Appl. No.:** 08/764,127

[57] **ABSTRACT**

[22] **Filed:** Dec. 12, 1996

[51] **Int. Cl.⁷** G06F 1/12

[52] **U.S. Cl.** 463/42; 395/553

[58] **Field of Search** 395/200.78, 552,
395/553; 463/40, 41, 42

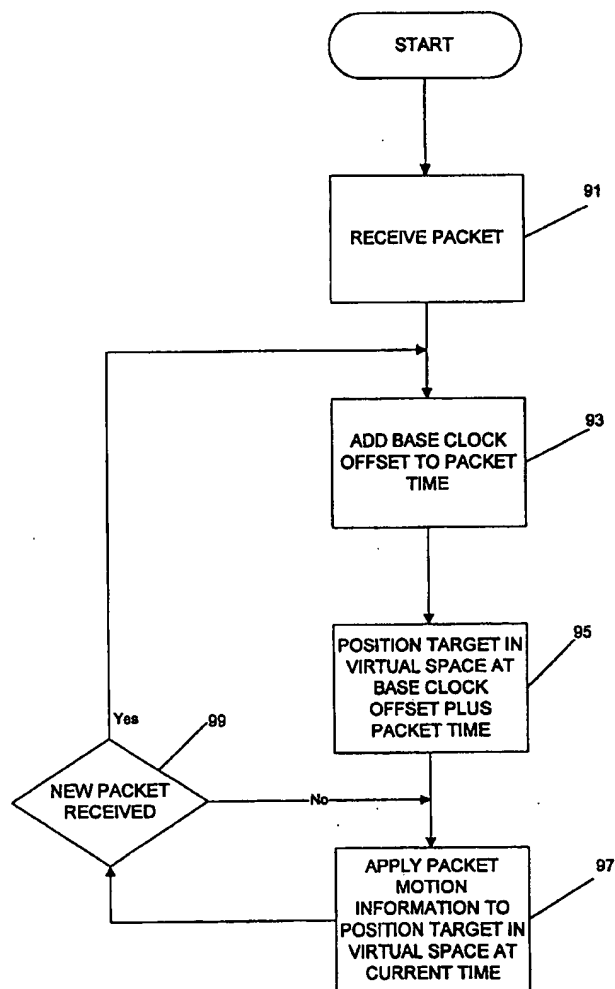
A method of minimizing the effects of time latency in multiplayer electronic games played over a network including a plurality of computers. Each computer is associated with a game object and each computer includes an internal clock. Each computer periodically transmits a packet containing a packet time and time dependent attribute information for its associated game object. The receiving computer uses the packet time to render the game object in the game environment based on the time the packet was sent.

[56] **References Cited**

U.S. PATENT DOCUMENTS

5,185,603 2/1993 Medin 345/213
5,350,176 9/1994 Hochstein et al. 463/42

23 Claims, 4 Drawing Sheets





US005762552A

United States Patent [19]

Vuong et al.

[11] Patent Number: 5,762,552

[45] Date of Patent: Jun. 9, 1998

[54] **INTERACTIVE REAL-TIME NETWORK GAMING SYSTEM**

[75] Inventors: Son Thanh Vuong, Vancouver, Canada;
 Xuyen Thanh Vuong, Vienna, Va.;
 Binh Thanh Vuong, Simi Valley, Calif.;
 Phu Thanh Vuong, Simi Valley, Calif.;
 Vinh Thanh Vuong, Simi Valley, Calif.

[73] Assignee: VT Tech Corp., Simi Valley, Calif.

[21] Appl. No.: 567,776

[22] Filed: Dec. 5, 1995

[51] Int. Cl.⁶ G06F 15/28

[52] U.S. Cl. 463/25; 463/17; 463/29;
 463/42

[58] Field of Search 463/40, 42, 16,
 463/17, 22, 11, 34, 29, 25; 273/142 E,
 142 R; 364/412

[56] **References Cited****U.S. PATENT DOCUMENTS**

3,810,627	5/1974	Levy	463/42
4,339,798	7/1982	Hedges et al.	463/31
4,614,342	9/1986	Takashima	273/85
4,875,164	10/1989	Monfort	364/412
4,926,327	5/1990	Sidley	463/42
5,249,800	10/1993	Hilgendorf et al.	273/138 A
5,342,047	8/1994	Heidel et al.	273/85 CP
5,361,091	11/1994	Hoarty et al.	348/7
5,377,997	1/1995	Wilden et al.	273/434
5,411,258	5/1995	Wilson et al.	273/86
5,588,650	12/1996	Eman et al.	463/17

OTHER PUBLICATIONS

Bulkeley, William M; Electronics Is Bringing Gambling Into Homes, Restaurants and Planes; Wednesday, Aug. 16, 1995; pp. A1 and A5; *The Wall Street Journal*.

Primary Examiner—Jessica Harrison

Assistant Examiner—James Schaaf

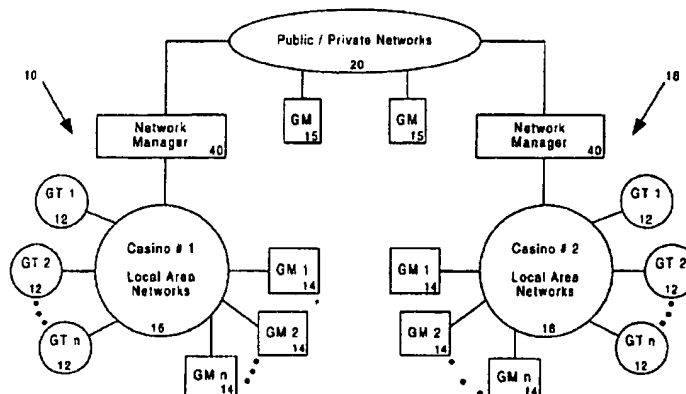
Attorney, Agent, or Firm—Craig E. Shinnars

[57] **ABSTRACT**

The present invention is related to a network based gaming system that enables a plurality of players to place wagers on a real-time game of chance being conducted in a casino via a distributed network system or, alternatively, to place wagers on a game of chance using internally generated game sequences.

In the preferred embodiment of the system, a gaming machine provides a menu of a plurality of live-action board games of chance, such as roulette, craps or baccarat, from which a player selects a desired game. Once the game is selected, the player is presented a video representation of the possible bets on the gaming machine and a means for establishing a stake by either depositing currency or by accessing various credit accounts such as a credit card or casino credit line. After the player's bets are placed and recorded in memory resident in the gaming machine, the video representation displayed on the gaming machine is adapted to include a broadcast quality feed comprising, both audio and video signals from the selected gaming table in the casino. The transmission network and the gaming machines are coupled to a network manager which is responsible for maintaining network integrity and for providing memory capacity of the recording of bets placed by gaming machines locate outside the controlled environment of the casino. The result of the next-to-occur play of the selected game of chance is detected and transmitted to the remote gaming machines over the transmission network. The results are compared with the bets placed by the player at each of the gaming machines to determine if the player wins or loses the bets. The won/loss determination is also transmitted to the remote gaming machines by the network manager. If the bets placed by the player are determined to be winners, the appropriate winnings are calculated and returning to the player either in currency or credited to the appropriate account maintained at the network manager. If the bets placed by the player are not winning bets, deposited currency is retained by the gaming machine or, if the bets are placed using a credit account, the appropriate deductions are made from the account.

16 Claims, 11 Drawing Sheets



GT : Gaming Table
 GM : Gaming Machine



US006241612B1

(12) **United States Patent**
Heredia

(10) **Patent No.:** **US 6,241,612 B1**
(45) **Date of Patent:** **Jun. 5, 2001**

(54) **VOICE COMMUNICATION DURING A
MULTI-PLAYER GAME**

(75) **Inventor:** **Rafael Heredia, Easley, SC (US)**

(73) **Assignee:** **Cirrus Logic, Inc., Austin, TX (US)**

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) **Appl. No.:** **09/188,122**

(22) **Filed:** **Nov. 9, 1998**

(51) **Int. Cl.⁷** **A63F 13/00; A63F 9/24; G06F 17/00; G06F 19/00**

(52) **U.S. Cl.** **463/42; 463/40; 463/41; 704/200; 704/201; 704/270; 704/275; 725/18; 725/20; 725/118; 725/148; 725/127**

(58) **Field of Search** **463/42, 40, 41, 463/35; 704/201, 200, 203, 270, 275; 725/18, 20, 118, 127, 148, 149**

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,569,026	2/1986	Best	364/521
5,026,051	6/1991	Lowe et al.	273/435
5,526,354	6/1996	Barracough et al.	370/62
5,530,599	6/1996	Kline	370/62
5,530,699	6/1996	Kline	370/62
5,538,255	7/1996	Barker	463/41
5,556,107	9/1996	Carter	463/35

5,586,937	12/1996	Menashe	463/41
5,623,490	4/1997	Richter et al.	370/263
5,630,757	5/1997	Gagin et al.	463/43
5,685,775	11/1997	Bakoglu et al.	463/41
5,695,400	12/1997	Fennell, Jr. et al.	463/42
5,807,109	* 9/1998	Tzidon et al.	434/35 X
5,947,825	* 9/1999	Horstman et al.	463/42 X
5,956,485	* 9/1999	Perlman	395/200.34 X

OTHER PUBLICATIONS

Hunt, Trujillo, Orvis, "Structural and Electrical Characteristics of Silicon Field-Emission Microelectronic Devices," IEEE Transactions on Electron Devices, vol.38, No. 10, pp. 2309-2313, Oct. 1991.

* cited by examiner

Primary Examiner—Jessica J. Harrison

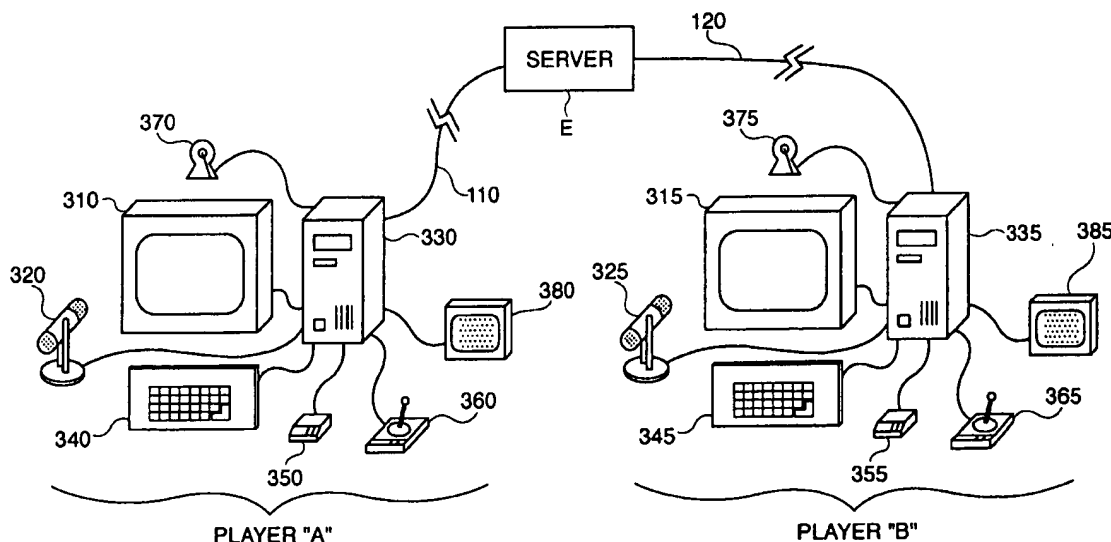
Assistant Examiner—Binh-An D. Nguyen

(74) **Attorney, Agent, or Firm**—Robert P. Bell; Peter Rutkowski

(57) **ABSTRACT**

Real-time synchronized voice communications during a multi-player game is disclosed. A server is connected to client computers, players. Players can speak into a microphone and have their voice transmitted to all players or a select few. Digitized voice communications are transmitted along with other game data. Player speech and game data is synchronized and reproduced in the same order it was captured.

2 Claims, 3 Drawing Sheets





US006012984A

United States Patent [19]

Roseman

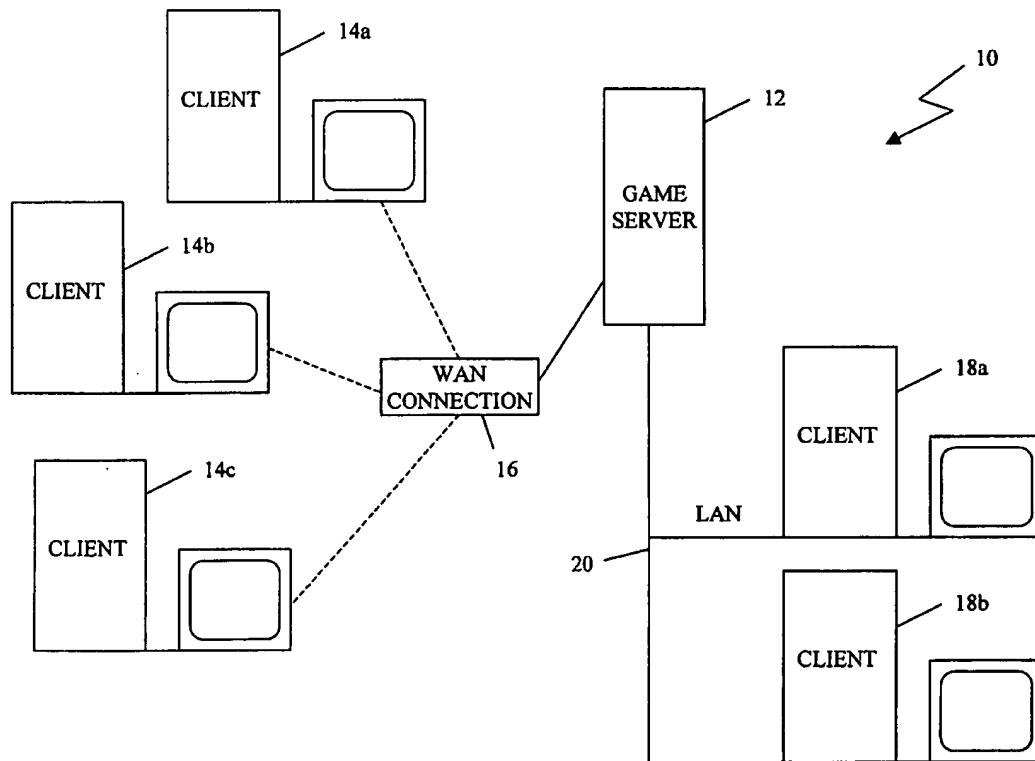
[11] **Patent Number:** 6,012,984[45] **Date of Patent:** Jan. 11, 2000[54] **SYSTEMS FOR PROVIDING LARGE ARENA GAMES OVER COMPUTER NETWORKS**[75] Inventor: **Stuart Roseman**, Boston, Mass.[73] Assignee: **Gamesville.Com, Inc.**, Boston, Mass.[21] Appl. No.: **08/827,853**[22] Filed: **Apr. 11, 1997**[51] **Int. Cl.⁷** **A63F 9/22**[52] **U.S. Cl.** **463/42; 463/1; 463/42**[58] **Field of Search** **463/41, 42, 1, 463/16, 17, 18, 19; 364/410.1; 395/200.5**[56] **References Cited****U.S. PATENT DOCUMENTS**

4,902,020	2/1990	Auxier	273/256
5,009,429	4/1991	Auxier	273/240
5,083,800	1/1992	Lockton	273/439
5,096,202	3/1992	Hesland	273/237
5,324,035	6/1994	Morris et al.	273/138
5,351,970	10/1994	Fioretti	273/439
5,393,057	2/1995	Marnell, II	273/85
5,505,449	4/1996	Eberhardt et al.	273/138
5,536,016	7/1996	Thompson	273/269
5,569,083	10/1996	Fioretti	463/19
5,586,937	12/1996	Menashe	463/41
5,737,560	4/1998	Yohanan	395/349

5,746,656	5/1998	Bezick et al.	463/42
5,816,918	10/1998	Kelly et al.	463/16
5,823,879	10/1998	Goldberg et al.	463/42
5,830,069	11/1998	Soltesz et al.	463/42

Primary Examiner—Jessica J. Harrison*Assistant Examiner*—John M. Hotaling, II*Attorney, Agent, or Firm*—Testa, Hurwitz & Thibault, LLP[57] **ABSTRACT**

The gaming systems according to the invention include hardware and software systems that allow a large arena of participants to interactively play a game of chance or skill. Generally, the invention can be understood game servers that generate page signals, such as HTML pages, that are representative of a hand being played, or dealt to a participant in a large arena game. For example, the game server can generate for each participant in a large arena game a page that is representative of a bingo card dealt to that participant. Each of the pages generated by the server includes a control mechanism, such as a check box or radio button, that allows the server to collect information from the participant to determine the moves being played by that participant. The game server collects from each participant the moves being played by the participant and as a function of the moves played and the hand dealt, the game server generates a new page that shows the progression of the participant through the game.

18 Claims, 6 Drawing Sheets



US005790753A

United States Patent [19]**Krishnamoorthy et al.**[11] **Patent Number:** **5,790,753**[45] **Date of Patent:** **Aug. 4, 1998****[54] SYSTEM FOR DOWNLOADING COMPUTER SOFTWARE PROGRAMS**

[75] Inventors: **Suban Krishnamoorthy**, Shrewsbury;
Ronald A. Faccenda, Southborough,
both of Mass.

[73] Assignee: **Digital Equipment Corporation**,
Maynard, Mass.

[21] Appl. No.: **589,294**

[22] Filed: **Jan. 22, 1996**

[51] Int. CL⁶ **G06F 15/16**

[52] U.S. Cl. **395/200.33; 395/200.3;**
370/464; 348/7; 348/461; 455/6.2

[58] **Field of Search** **364/514 R, 514 A,**
364/514 C; 371/32; 370/464, 474; 348/7,
12, 13, 461, 466, 467; 455/5.1-6.3, 49.1,
50.1, 59, 63, 103; 395/200.3, 200.33

[56] References Cited**U.S. PATENT DOCUMENTS**

4,965,825	10/1990	Harvey et al.	384/49
5,481,542	1/1996	Logston et al.	348/7
5,630,757	5/1997	Gagin et al.	348/13
5,635,979	6/1997	Kostreski et al.	364/976.3
5,640,453	6/1997	Schuchman et al.	348/7

OTHER PUBLICATIONS

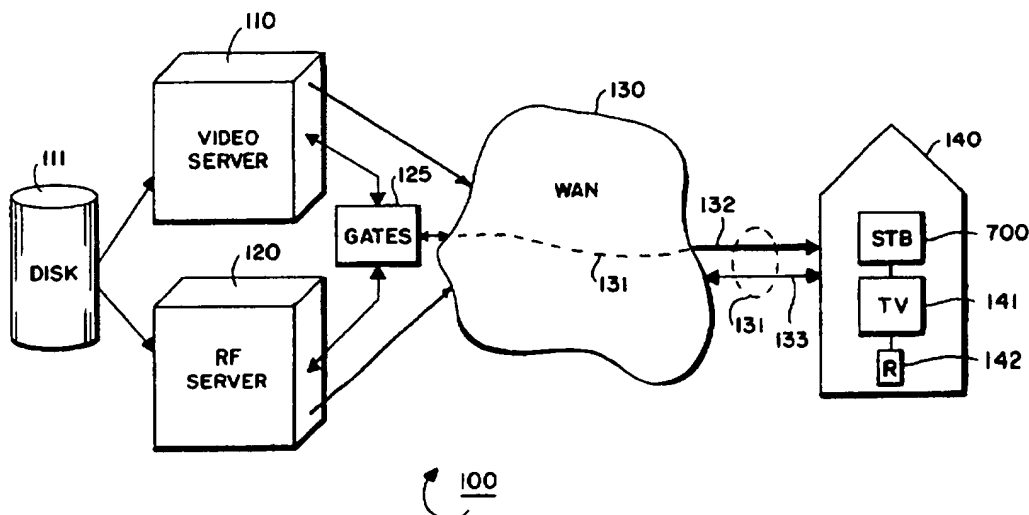
"Final Text for ISO/IEC DIS 13818-1: Information Technology—Generic Coding of Moving Pictures and Associated Audio Information: Systems Attachment: Explanatory

Report [JTC 1/SC 29/WG 11 N 721]" (Information Processing Society of Japan/Information Technology Standards Commission of Japan [A Standards Organization accredited by JISC]), Date: 1994-06-13.

Primary Examiner—James P. Trammell
Assistant Examiner—Craig Steven Miller
Attorney, Agent, or Firm—Dirk Brinkman

[57] ABSTRACT

In a video-on-demand system, a disk-less set-top box is configured to download software programs from a video server via a network. The set-top box includes a read-only memory storing a boot program, a control protocol stack, and a video protocol stack. The control protocol stack is connected to a bidirectional control channel of a circuit of the network, and the video protocol stack is connected to a unidirectional video channel of the circuit. Using a handheld remote controller, a consumer makes a request for a software program from the video server. The request is made via the control protocol stack and the control channel. The video server transmits the software program as an encoded video transport stream, which is received via the video channel and the video protocol stack. The transport stream is decoded to reconstruct the requested program in a dynamic random access memory of the set-up box from where the program can be executed in a processor of the set-top box.

20 Claims, 12 Drawing Sheets



US005586937A

United States Patent [19]

Menashe

[11] **Patent Number:** 5,586,937[45] **Date of Patent:** Dec. 24, 1996[54] **INTERACTIVE, COMPUTERISED GAMING SYSTEM WITH REMOTE TERMINALS**[76] **Inventor:** Julian Menashe, 54 Copley Park,
London SW16 3DB, United Kingdom[21] **Appl. No.:** 252,538[22] **Filed:** May 19, 1994[30] **Foreign Application Priority Data**

May 19, 1993 [ZA] South Africa 93/3483

[51] **Int. Cl.⁶** A63F 9/22[52] **U.S. Cl.** 463/41; 463/29; 463/16[58] **Field of Search** 273/138 A, 439,
273/269; 463/16, 29, 41[56] **References Cited****U.S. PATENT DOCUMENTS**

4,494,197	1/1985	Troy et al.	
4,856,787	8/1989	Itkis	273/269
4,948,138	8/1990	Pease et al.	273/138 A
5,324,035	6/1994	Morris et al.	273/138 A
5,326,104	7/1994	Pease et al.	273/138 A
5,351,970	10/1994	Fioretti	273/439

FOREIGN PATENT DOCUMENTS

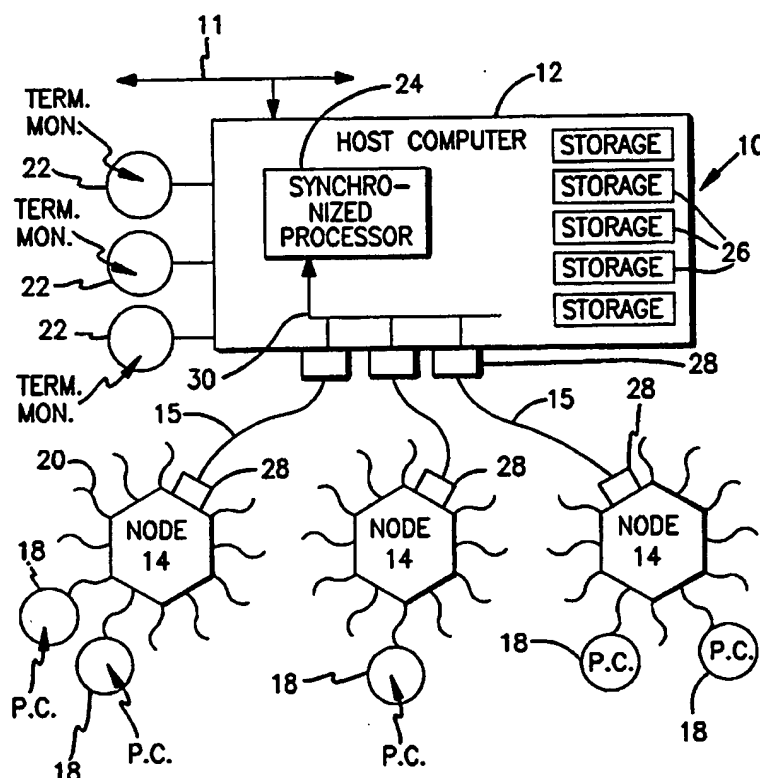
0542664	5/1993	European Pat. Off.
2147773	5/1985	United Kingdom

2151054 7/1985 United Kingdom.

Primary Examiner—Angela D. Sykes*Assistant Examiner*—Eric F. Winakur*Attorney, Agent, or Firm*—Young & Thompson[57] **ABSTRACT**

The gaming system includes a host computer, a plurality of general purpose terminal computers forming player stations remote from the host, means for providing communication between each of the terminals and the host. Each terminal has a program for generating screen graphics and sound locally in response to control data packets generated by and received from the host. The host generates random numbers for a game being played on a connected terminal within preset criteria for that game in response to data packets received from the terminal. The data packets are of variable length between 1 and 80 bytes. The host sequentially stores the minimum significant information for replaying a game, auditing and security, such as accounting data of each player at the start of each game, random numbers generated by the host, responses received from a player, and whether a game was completed. Play is substantially real-time, because only minimal data is transmitted with functions requiring large amounts of data, such as screen graphics being generated locally. The statuses of host and terminal are restored automatically on re-establishing communication following an interruption to ensure fairness to players and prevent them defeating the outcome of a game.

17 Claims, 1 Drawing Sheet





US005586257A

United States Patent [19]

Perlman

[11] Patent Number: **5,586,257**[45] Date of Patent: **Dec. 17, 1996****[54] NETWORK ARCHITECTURE TO SUPPORT
MULTIPLE SITE REAL-TIME VIDEO
GAMES**[76] Inventor: **Stephen G. Perlman, 721 Tiana La.,
Mountain View, Calif. 94041**[21] Appl. No.: **238,477**[22] Filed: **May 5, 1994**[51] Int. Cl.⁶ **A63F 9/22; A63F 9/24;
H04L 12/00**[52] U.S. Cl. **463/42; 364/DIG. 1; 364/227.1;
364/242.94; 364/242.95; 364/242.96; 364/264;
364/264.4; 395/200.06; 395/200.12; 395/200.01;
463/23; 463/29**[58] Field of Search **273/434-39, 85 G;
364/410-411; 395/200.01, 200.03-04,
200.6, 200.9, 200.12, 200.14, 285-287,
800, 200****[56] References Cited****U.S. PATENT DOCUMENTS**

4,372,558	2/1983	Shimamoto et al.	273/238
4,520,477	5/1985	Wen	370/58
4,521,014	6/1985	Sitrick	273/1 GC
4,570,930	2/1986	Matheson	273/1 E
4,572,509	2/1986	Sitrick	273/85 G
4,592,546	6/1986	Fascenda et al.	273/1 E
4,799,635	1/1989	Nakagawa	364/900
4,856,787	8/1989	Itnis	273/237
4,941,084	7/1990	Terada et al.	395/650
4,980,897	12/1990	Decker et al.	375/38
4,998,199	3/1991	Tashiro et al.	364/410
5,013,038	5/1991	Luxenberg et al.	273/439
5,048,831	9/1991	Sides	273/85 G
5,070,479	12/1991	Nakagawa	395/575
5,083,271	1/1992	Thacher et al.	364/411
5,083,800	1/1992	Lockton	273/439
5,112,051	5/1992	Darling et al.	273/148 B
5,114,155	5/1992	Tillery et al.	273/371
5,120,076	6/1992	Luxenberg et al.	273/439
5,155,768	10/1992	Matsuhara	380/23
5,161,803	11/1992	Ohara	273/435
5,251,318	10/1993	Nitta et al.	395/479

5,273,288	12/1993	Teshima et al.	273/237
5,291,189	3/1994	Otake et al.	340/799
5,324,035	6/1994	Morris et al.	273/138 A
5,350,176	9/1994	Hochstein et al.	273/148 B

FOREIGN PATENT DOCUMENTS

0402067	6/1990	European Pat. Off. .
0481770	10/1991	European Pat. Off. .
0571213	5/1993	European Pat. Off. .
0571138	5/1993	European Pat. Off. .
9323125	11/1993	WIPO .

OTHER PUBLICATIONS

Keizer, G. "Playing the Field: On Line Gaming Matches Your Wits Against Real Opponents." Omni (Apr. 1993) p. 18.

Keizer, G. "Dial-A-Dual." Computer Shopper, vol. 13, No. 606 (Jun. 1993) p. 606.

"TSN's On-Line Bridge: The Social Card Game." PC Magazine, vol. 11, No. 19 (Nov. 10, 1992) p. 539.

Mitchell, G. "X Band Ties Up The Telephone." Computer Real Week, vol. 4, No. 73 (Sep. 26, 1994) p. 49.

(List continued on next page.)

Primary Examiner—Lance Leonard Barry, Esq.*Attorney, Agent, or Firm*—Blakely, Sokoloff, Taylor & Zafman**[57] ABSTRACT**

A system for linking a first computer to a second computer is disclosed. The system of the present invention comprises a network. A first computer is coupled to the network. A second computer is coupled to the network. A server is coupled to the network for receiving a request for direct linking from the first computer and a request for direct linking from the second computer, matching the first computer with the second computer using matching criteria received from the first computer and the second computer, and sending a network address of the second computer to the first computer. The first computer further comprises a circuit for establishing a communication link with the second computer.

22 Claims, 22 Drawing Sheets